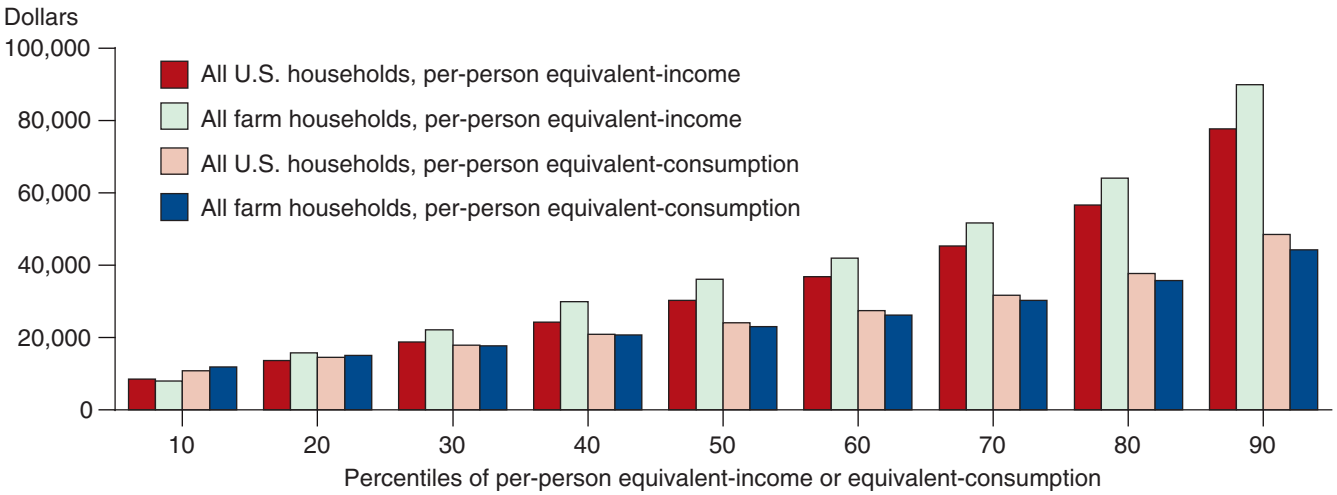
Relative Well-Being of Farm and All U.S. Households, as Indicated by Income and Consumption

Household income of farm households, compared to all U.S. households, is higher at the mid-point of the distribution, but also is more dispersed—lower at the low end of the distribution and higher at the high end; as a result, farm household income is higher at all deciles but the first, compared to all U.S. households (fig. 6). Farm households also have a lower tendency to increase consumption as income increases than do all U.S. households. What, then, is the net effect of these countervailing patterns on the distribution of consumption levels in the two populations?

To illustrate the different perspectives on relative well-being of farm and all U.S. households afforded by income and consumption measures, table 8 presents the values at each decile of the income and consumption distributions for the two populations. As a benchmark for the income data in the smaller consumption-analysis samples, column 1 of table 8 reports the value of equivalent-income at each decile, using CPS for all U.S. households and the full ARMS sample (with data from all five survey versions) for farm households. Columns 2 and 3 report the values at the deciles of equivalent-income and equivalent consumption, respectively, using the CE (for all U.S. households) and the ARMS (for all farm households) consumption-analysis samples.

Comparing the distribution of equivalent-income in columns 1 and 2 indicates that the ARMS consumption-analysis sample understates farm household income (relative to the full ARMS sample) at the 90th percentile and the CE income distribution understates all U.S. household income (relative to CPS) throughout the distribution. As a result, the farm household dominance in household income appears even greater in column 2 relative to column 1, except at the 80th and 90th percentiles.

Figure 6
Values of household equivalent-income and equivalent-consumption at decile cut-points, all farm and all U.S. households, 2006



Source: USDA, Economic Research Service using Agricultural Resource Management Survey 2006, and Consumer Expenditure Survey, 2006.

Table 8

Distributions of household equivalent-income and equivalent-consumption, 2006

Farm operator households	1	2	3
	ARMS full sample	ARMS analysis sample	
	Per-person equivalent-income		*Per-person equivalent consumption*
Mean	$51,878	$48,060	$27,141
Decile maximum			
10	$6,691	$8,060	$11,866
20	$15,405	$15,710	$15,037
30	$22,339	$22,098	$17,645
40	$29,397	$29,840	$20,720
Median 50	$35,560	$36,117	$23,092
60	$41,911	$41,936	$26,267
70	$53,007	$51,626	$30,214
80	$70,035	$64,114	$35,779
90	$107,390	$89,795	$44,250
	Ratio		
80:20	4.55	4.08	2.38
90:10	16.05	11.14	3.73
	Percent		
Poverty rate per person*	14.4	13.8	7.8
All U.S. households	1	2	3
	CPS	CE analysis sample	
	Per-person equivalent-income		*Per-person equivalent consumption*
Mean	$43,227	$39,558	$28,137
Decile maximum			
10	$9,384	$8,440	$10,886
20	$14,962	$13,729	$14,589
30	$20,162	$18,777	$17,868
40	$25,786	$24,288	$20,886
Median 50	$32,067	$30,281	$24,001
60	$39,659	$36,902	$27,420
70	$48,988	$45,334	$31,727
80	$61,327	$56,564	$37,626
90	$84,400	$77,610	$48,434
	Ratio		
80:20	4.10	4.12	2.58
90:10	8.99	9.20	4.45
	Percent		
Poverty rate per person*	12.3	11.8	9.2

Notes. For comparability across households of different sizes, we report per person equivalent-income and equivalent-consumption, where income and consumption have been adjusted for household size.

*Analogous to the procedure for individual income poverty, individuals are determined to be in consumption poverty by comparing their total household consumption against the official census poverty threshold used for income poverty. The census threshold incorporates an alternative equivalency adjustment for household size to the one employed in this study.

Sources: USDA, Economic Research Service using Consumer Expenditure Survey, 2006, and Agricultural Resource Management Survey, 2006 analysis sample.

In column 3, we see that the net effect of predominantly higher income, but a lower propensity to consume as income increases, is that the farm household distribution of consumption is very similar to that for all U.S. households. The similarities are strongest for the 30th, 40th, and 50th percentiles of the distribution. At the tails of the distributions, the pattern appears to be reversed from that of the income distribution: farm households appear better off at the low end of the distribution and worse off at the high end of the distribution, relative to all U.S. households.

We need to qualify the results at the upper end of the distribution because we are not able to rule out the possibility that measurement error could understate consumption levels at the upper end; in addition, there is attrition from the sample of the highest-income farm households, resulting in lower income at the 90th percentile.

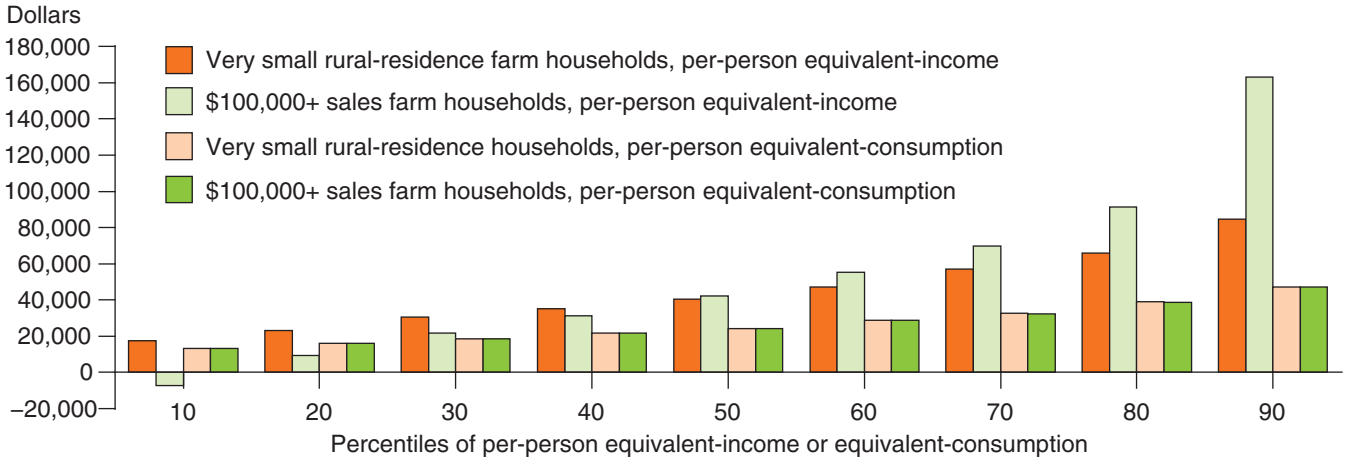
Our final indicator of well-being focuses on the low end of the distribution—income and consumption poverty rates. A convention in the literature is to calculate consumption poverty by comparing a household's consumption level to the census poverty threshold for the composition of that household, used to determine official income-based poverty rates. If consumption is a better indicator of standard of living for households where money income is less predominant as a resource and/or where income is highly variable across years, then consumption poverty may be a better measure of economic disadvantage than the official census income-based measure (Jorgenson, 1998; Meyers and Sullivan, 2003; Slesnick, 2001). The census poverty threshold incorporates an adjustment for household size (including age composition), one that is different from the equivalency measure employed in our data analysis. Consequently, poverty rates are calculated on total income and total consumption measures.

For the farm population (based on the ARMS analysis sample), poverty drops from 13.8 percent (14.4 percent in full ARMS sample) based on the official census income-poverty measure to 7.8 percent for the consumption-poverty measure. For all U.S. households (based on the CE analysis sample), poverty drops from 11.8 percent (12.3 percent in CPS) based on the official Census income-poverty measure to 9.2 percent for the consumption-poverty measure. Whereas farm households have a higher income-poverty rate, they have a lower consumption-poverty rate than all U.S. households.

In table 9 and figure 7, we report the per-person equivalent-income and equivalent-consumption distributions for households operating $100,000+ sales farms and very small rural-residence farms, two farm household subgroups that differ substantially in the extent of exposure to income variability from self-employment. Per-person equivalent-income is much more dispersed for households operating the larger farms than for households operating the very small farms, a pattern that affects both tails of the distribution: the larger-farm household income is lower at the low end of the distribution (indeed negative until the 14th percentile compared to below the 2nd percentile for the very small farms), and higher at the high end of the distribution. However, the propensity to consume is sufficiently lower among the larger-farm households that the consumption distributions are very similar. Analogously, the income-poverty rates are quite divergent (22 percent for $100,000+ sales farms versus 7 percent for very small rural-residence farms), but the consumption-poverty rates are roughly 6 percent for both groups.

Figure 7

Values of equivalent-income and equivalent-consumption at decile cut-points, households of very small rural-residence and $100,000+ sales farm operators, 2006



Source: USDA, Economic Research Service using Agricultural Resource Management Survey 2006, and Consumer Expenditure Survey, 2006.

To further understand the relative well-being of farm households, it is also instructive to compare all U.S. households (table 8, figure 6) with the subgroup of large-farm households (table 9, figure 7). Though large family farms (farms with sales of $100,000 or more) represent only 16 percent of farms, they produced 89 percent of total farm sales in 2006. At the low end of the income and consumption distributions, large-farm households have substantially lower equivalent-income, but higher equivalent-consumption, than the population of all family-farm households—which further increases the farm-all U.S divergence on the two measures. The differences at the low end are reflected in the poverty rates: income poverty is 22 percent among persons living in large-farm households, compared to 14 percent for persons in all farm households and 12 percent for all U.S. households; whereas consumption-poverty is 6 percent for persons living in large-farm households, compared to 8 percent in all farm households and 9 percent in all U.S. households.

At the high end of the income and consumption distributions, large-farm households have substantially higher equivalent-income, but—due to their higher exposure to income risk and their lower marginal propensity to consume—only slightly higher equivalent-consumption than all family-farm households. As a result, at the upper end of the consumption distribution, the consumption levels of large-farm households are very similar to those of all U.S. households.

Table 9

Distributions of household equivalent-income and equivalent-consumption, 2006

Farm operator households	1	2	3
Farms with sales of $100,000 or more	Full sample	Analysis sample	
	Per-person equivalent-income		*Per-person equivalent consumption*
Mean	$79,124	$68,229	$28,540
Decile maximum			
10	-$14,209	-$7,400	$13,526
20	$9,479	$9,486	$16,417
30	$22,981	$21,564	$19,528
40	$34,640	$31,204	$21,526
Median 50	$46,694	$42,103	$24,893
60	$60,670	$55,233	$28,023
70	$79,066	$69,910	$31,704
80	$111,591	$91,325	$37,346
90	$182,642	$163,136	$45,531
	Ratio		
80:20	11.77	9.63	2.27
90:10	-12.85	-22.05	3.37
	Percent		
Poverty rate per person*	22.1	21.7	5.8
Farm operator households	1	2	3
Very small rural-residence farms	Full sample	Analysis sample	
	Per-person equivalent-income		*Per-person equivalent consumption*
Mean	$51,530	$51,331	$28,763
Decile maximum			
10	$15,710	$17,440	$13,117
20	$22,066	$23,115	$16,127
30	$28,807	$30,572	$18,573
40	$33,404	$35,284	$21,873
Median 50	$37,528	$40,493	$24,275
60	$42,866	$47,178	$28,681
70	$51,970	$57,004	$32,497
80	$65,151	$66,052	$38,627
90	$90,478	$84,512	$47,274
	Ratio		
80:20	2.95	2.86	2.40
90:10	5.76	4.85	3.60
	Percent		
Poverty rate per person*	7.3	6.9	6.1

Notes. For comparability across households of different sizes, we report per-person equivalent-income and equivalent-consumption, where income and consumption have been adjusted for household size.

*Analogous to the procedure for individual income poverty, individuals are determined to be in consumption poverty by comparing their total household consumption against the official census poverty threshold used for income poverty. The census threshold incorporates an alternative equivalency adjustment for household size to the one employed in this study.

Sources: USDA, Economic Research Service using Agricultural Resource Management Survey, 2006 analysis sample.